Apo-Sironar-S

The Super Lens with Exceptional Sharpness and Covering Power

The Rodenstock Apo-Sironar-S is a universal lens which has been finely tuned to provide the best image reproduction quality and whose advantageous working aperture and large angle of view make it suitable for a variety of applications. Its particular strength is revealed when very fine structures have to be reproduced correctly both in the area around the image circle center and in the outer area used for camera movements. This feature, together with the almost perfect freedom from distortion, makes the Apo-Sironar-S particularly interesting for product or architectural photography.

The Favorite Lens for All Sharpness Fanatics Who Work with High Camera Movements

The Apo-Sironar-S does not just offer the feature of exceptional sharpness – it also provides an angle of view of 75° which is larger than that of conventional large format standard lenses and so permits even more generous camera movements. All in all, the Apo-Sironar-S is therefore the ideal lens whenever very high sharpness and very high camera movements are required simultaneously. In the format 4×5", for example, the Apo-Sironar-S 150 mm f/5.6 provides a vertical or horizontal shift 9 mm higher than that of the corresponding Apo-Sironar-N. The larger covering power can also be used for higher swings and tilts to transpose the depth of field.

ED Glass with Anomalous Dispersion Provides Freedom from Color Fringes Up To the Corners

Thanks to the use of special glass combinations, including the use of ED glass (ED = extra-low dispersion) with anomalous partial dispersion, it was possible to provide the 6 element (in 4 groups) lens with apochromatic correction. The reduction of all chromatic aberrations by this measure means that no visible color fringes occur right up to the picture edge, not even at high-contrast structures such as the edges of dark objects on a light table. In this context, it is just as important that flare could be kept to a minimum thanks to high production quality and MC coating. In addition, the light fall-off towards the edge has been kept relatively low for the high angle of view of 75° and very uniform illumination has been achieved.

Larger Working Apertures Than Usual Thanks to Very High Optical Performance

The Apo-Sironar-S offers exceptional image quality from the center of the image circle right up to the edge areas. This feature means that in a number of cases, and wherever the depth of field required for the motif allows, a one-step larger working aperture than is possible with other high-quality standard lenses can be used. Due to the resulting shorter exposure times, this feature will provide better sharpness of moving objects in outdoor photography.

Apo-Sironar-S 240 mm f/5.6 in Copal 3 shutter

Formats, Shutters and Lens Dimensions

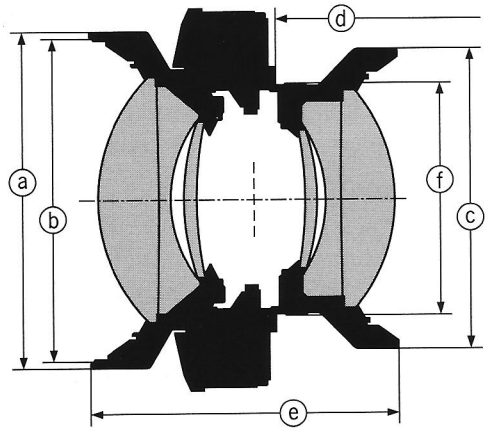
Apo-Sironar-S	Recommended maximum film format	Shutter size	Smallest aperture with shutter: Copal	Compur	Prontor prof.	Push-on mount diameter	Filter thread	Rear lens barrel diameter	Flange focal distance	Overall length	Shutter thread
						a	b	c	d	e	f
135 mm f/5.6	9×12 cm/4×5"	0 01 S	64 –	45 –	– 64	51 mm	M 49×0.75	48 mm	132 mm	47.5 mm	M 32.5×0.5 M 39×0.75
150 mm f/5.6	9×12 cm/4×5"	0 01 S	64 –	45 –	– 64	51 mm 51 mm	M 49×0.75	51 mm	147 mm	51.5 mm	M 32.5×0.5 M 39×0.75
180 mm f/5.6	13×18 cm/5×7"	1/1 S	64	64	64	70 mm	M 67×0.75	60 mm	177 mm	60.5 mm	M 39×0.75
210 mm f/5.6	13×18 cm/5×7"	1/1 S	64	64	64	75 mm	M 72×0.75	65 mm	202 mm	69.5 mm	M 39×0.75
240 mm f/5.6	13×18 cm/5×7"	3	64	64	64	90 mm	M 86×1	80 mm	230 mm	82 mm	M 62×0.75
300 mm f/5.6	18×24 cm/8×10"	3	64	64	64	105 mm	M 100×1	80 mm	277 mm	98.5 mm	M 62×0.75
360 mm f/6.8	18×24 cm/8×10"	3	64	64	64	117 mm	M 112×1.5	80 mm	330 mm	120 mm	M 62×0.75

Notes on the Recommended Working Aperture

In the following table, the range given for the recommended working aperture is that range in which the highest sharpness is achieved over the whole format with the depth of field being neglected.

The larger aperture applies to unmoved lenses, i.e. when the "format range" is used. The smaller aperture applies for camera movements where the format reaches to the image circle rim, i.e. for the "movement range". In cases of low shift, swing or tilt, a corresponding intermediate value is recommended.

Depending on the reproduction ratio and the depth of the motif, the required depth of field may make further stopping down necessary. In such cases, the sharpness may be reduced due to diffraction – particularly in the center of the image circle.



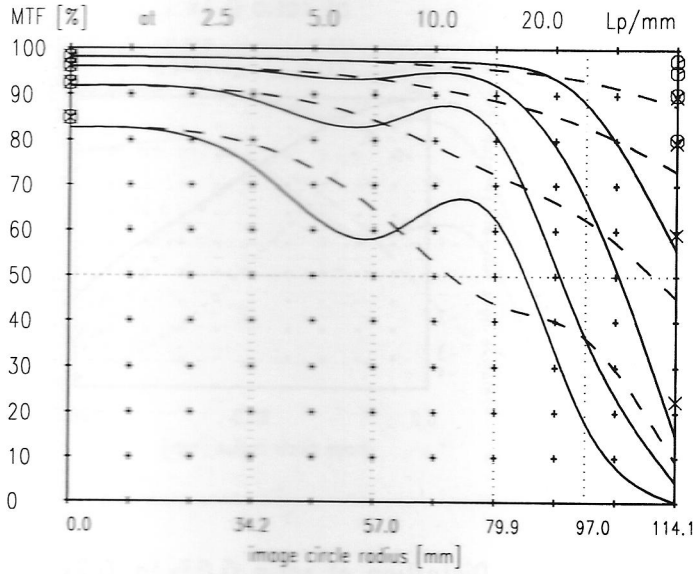
Lens section: 6 elements in 4 groups

Working Aperture, Angle of View, Image Circle and Shift Limits

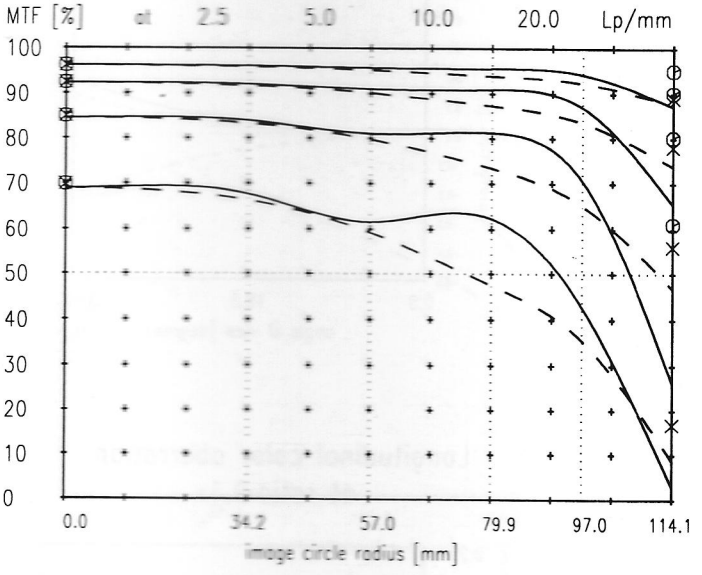
Apo-Sironar-S	Recomm. working aperture	Angle of view at f/22	Image circle Ø at 1:∞ and f/22	Shift limits in mm (with horizontal format, magnification ratio 1:∞ and f/22): 6×7 cm	6×9 cm	6×12 cm	9×12 cm	4×5"	13×18 cm	5×7"	18×24 cm	8×10"
135 mm f/5.6	11–22	75°	208 mm	↑70 →66	↑66 →56	↑59 →43	↑45 →38	↑37 →32				
150 mm f/5.6	11–22	75°	231 mm	↑82 →78	↑79 →68	↑72 →55	↑59 →51	↑50 →45	↑16 →12	↑17 →13		
180 mm f/5.6	16–32	75°	276 mm	↑105 →101	↑103 →91	↑97 →78	↑84 →74	↑76 →69	↑47 →38	↑48 →39		
210 mm f/5.6	16–32	75°	316 mm	↑126 →121	↑124 →112	↑120 →99	↑106 →96	↑98 →91	↑72 →60	↑73 →61	↑23 →18	↑3 →2
240 mm f/5.6	16–32	75°	372 mm			↑149 →127	↑135 →124	↑128 →120	↑104 →90	↑105 →91	↑60 →50	↑43 →36
300 mm f/5.6	22–45	75°	448 mm						↑146 →130	↑147 →131	↑106 →92	↑91 →79
360 mm f/6.8	22–45	68°	468 mm						↑157 →140	↑158 →141	↑118 →102	↑102 →90

Apo-Sironar-S 135 mm f/5.6

MTF at ratio 0.1x f/11



MTF at ratio 0.1x f/22

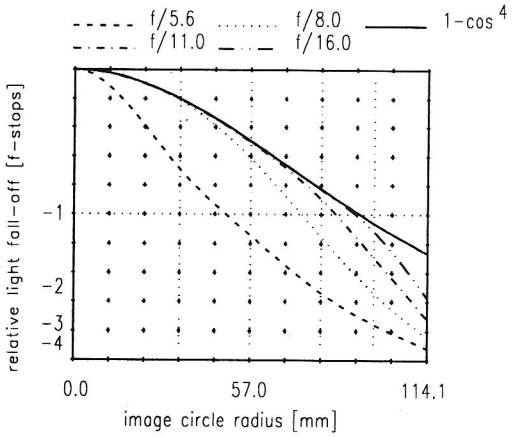


sagittal, Diffraction limited value

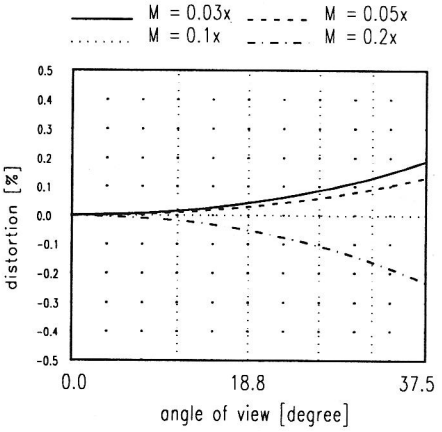
meridional, Diffraction limited value

Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

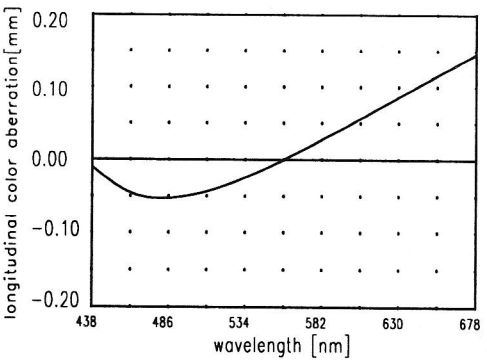
relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x

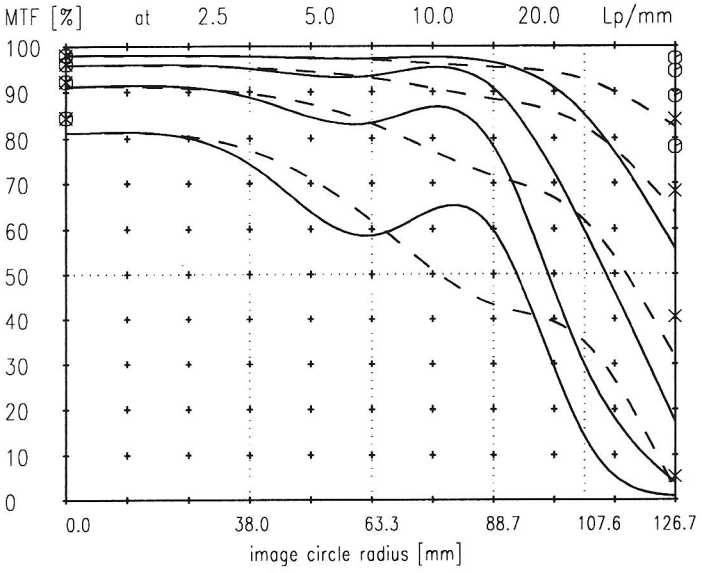


Longitudinal color aberration at ratio 0.1x

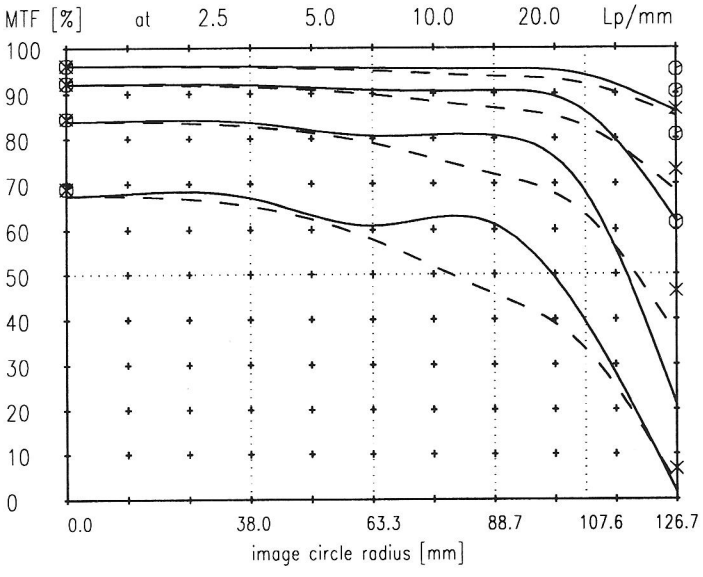


Apo-Sironar-S 150 mm f/5.6

MTF at ratio 0.1x f/11



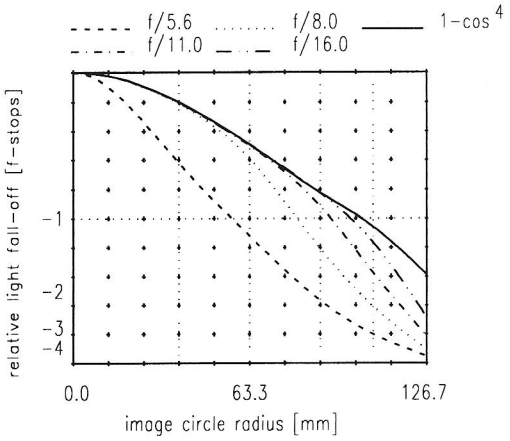
MTF at ratio 0.1x f/22



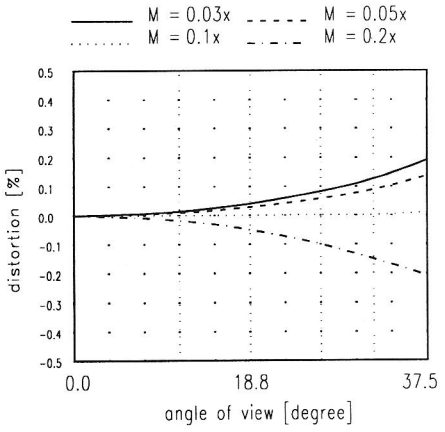
sagittal, Diffraction limited value

meridional, Diffraction limited value

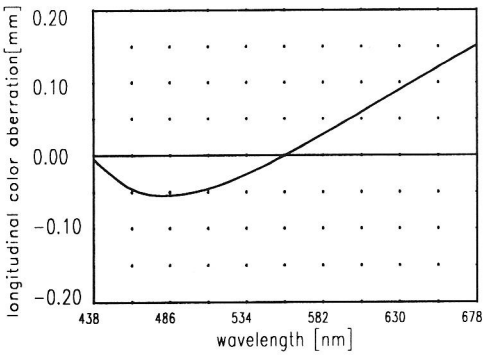
relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x



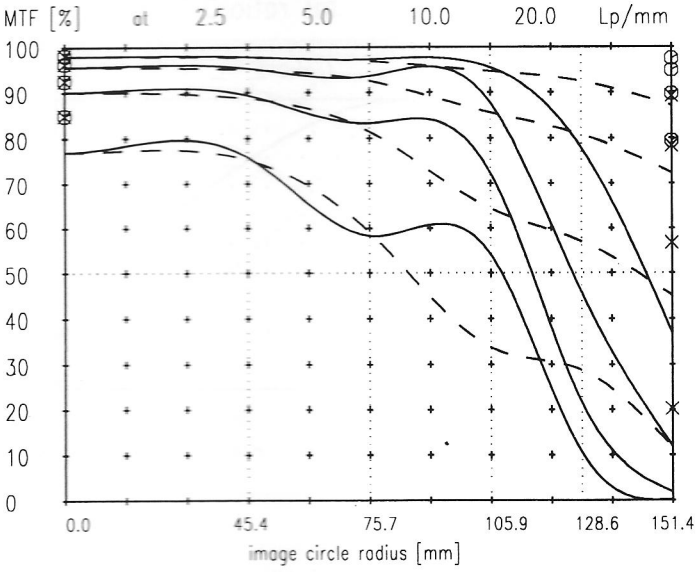
Longitudinal color aberration at ratio 0.1x



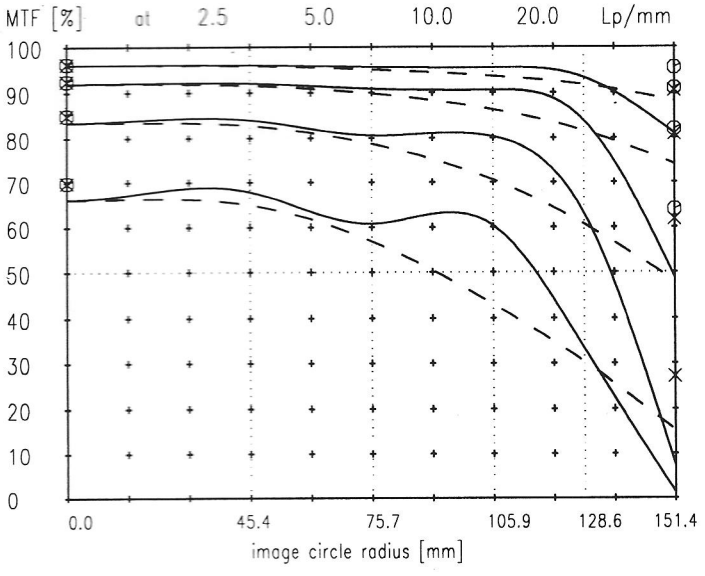
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

Apo-Sironar-S 180 mm f/5.6

MTF at ratio 0.1x f/11



MTF at ratio 0.1x f/22

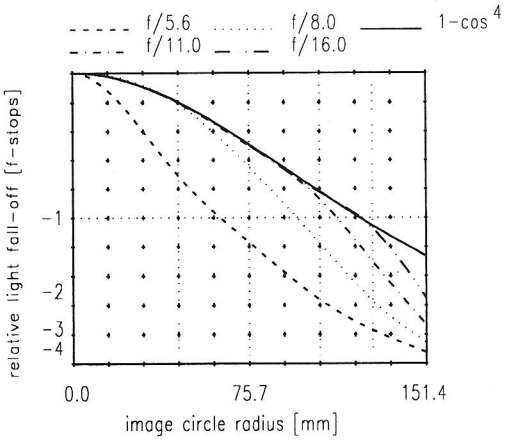


sagittal, Diffraction limited value

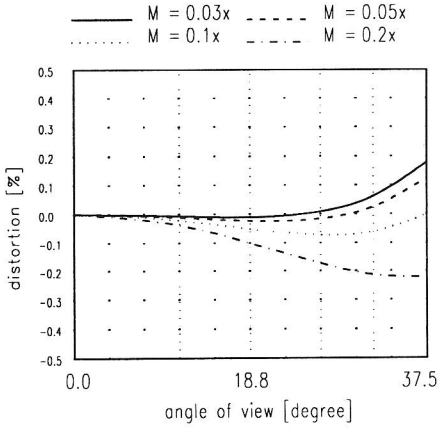
meridional, Diffraction limited value

Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

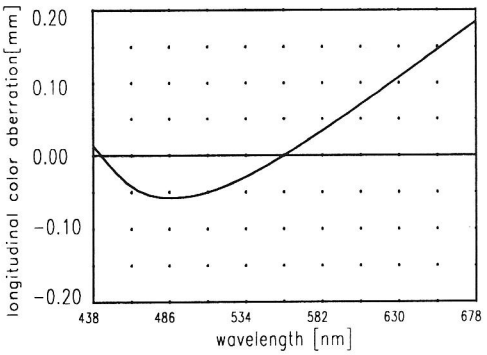
relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x

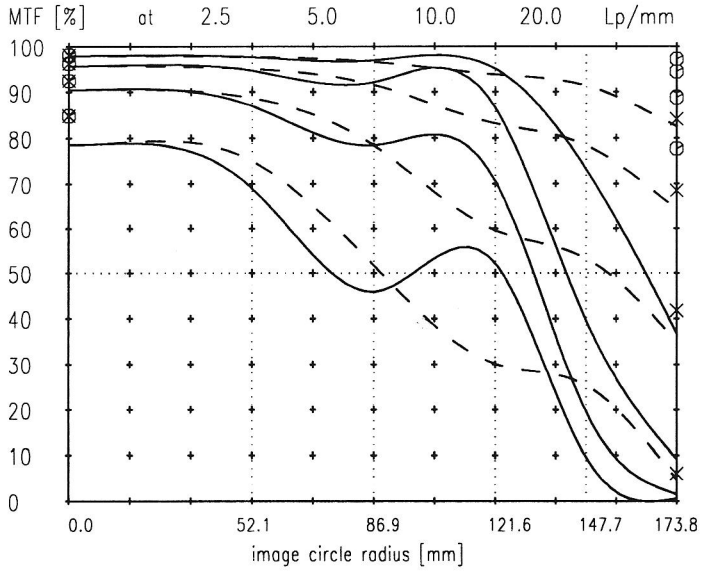


Longitudinal color aberration at ratio 0.1x

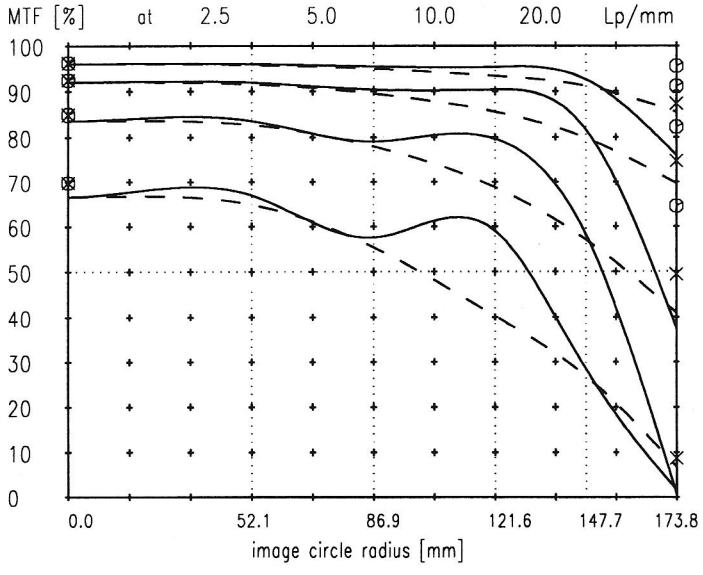


Apo-Sironar-S 210 mm f/5.6

MTF at ratio 0.1x f/11



MTF at ratio 0.1x f/22

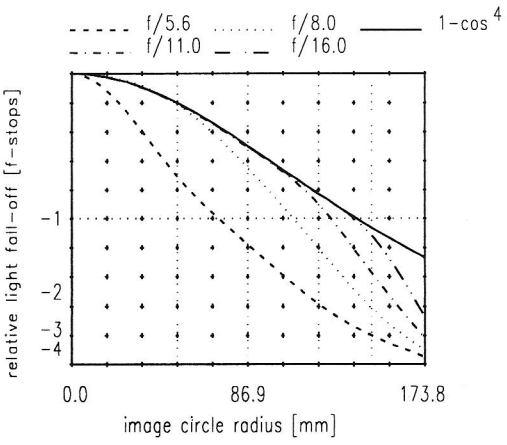


sagittal, ⊖ Diffraction limited value

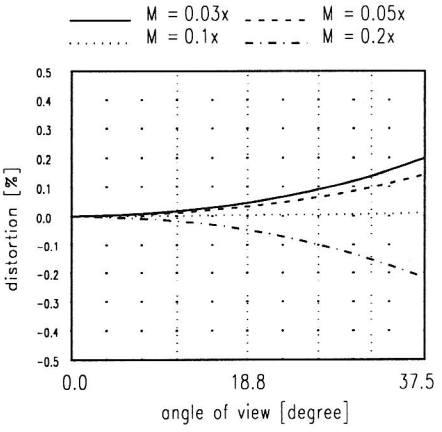
meridional, × Diffraction limited value

Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

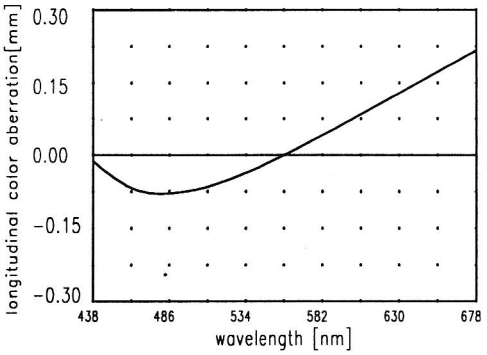
relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x

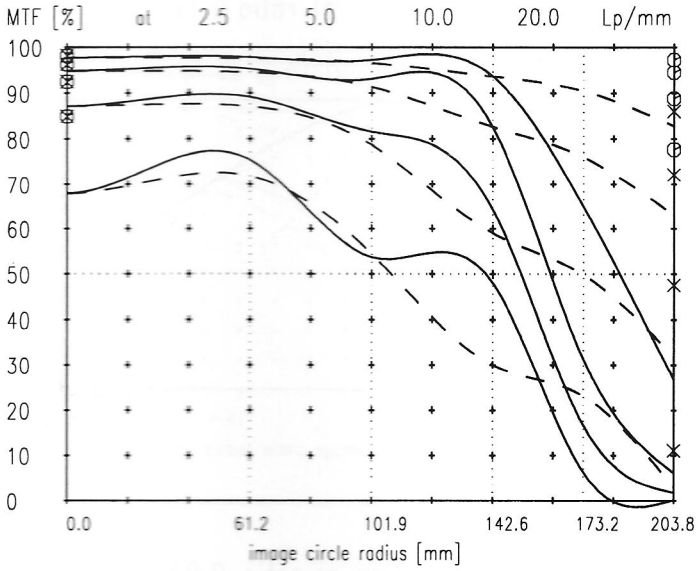


Longitudinal color aberration at ratio 0.1x

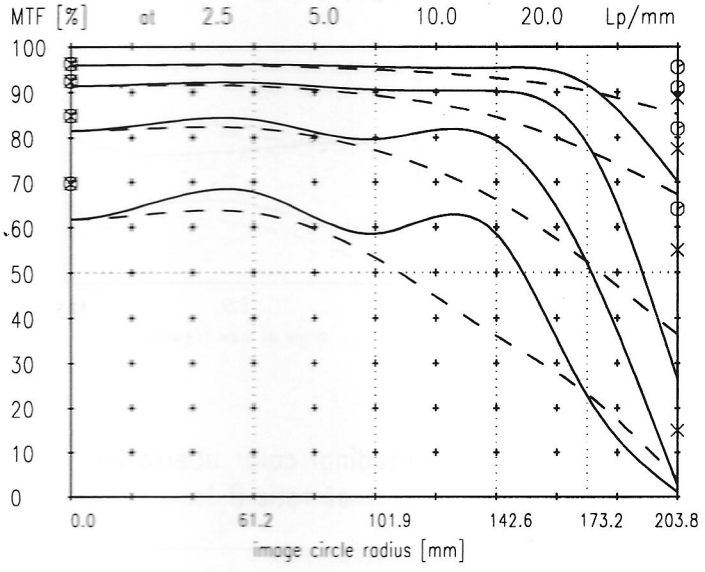


Apo-Sironar-S 240 mm f/5.6

MTF at ratio 0.1x f/11



MTF at ratio 0.1x f/22

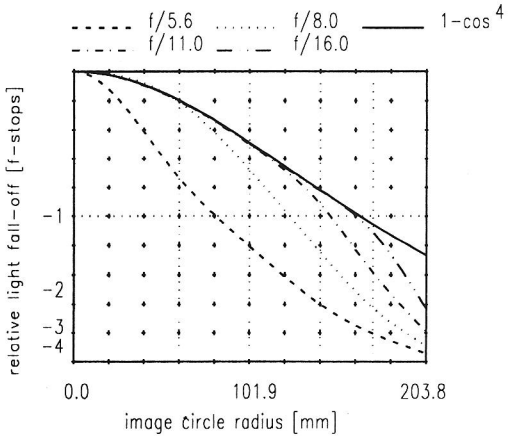


sagittal, ⊖ Diffraction limited value

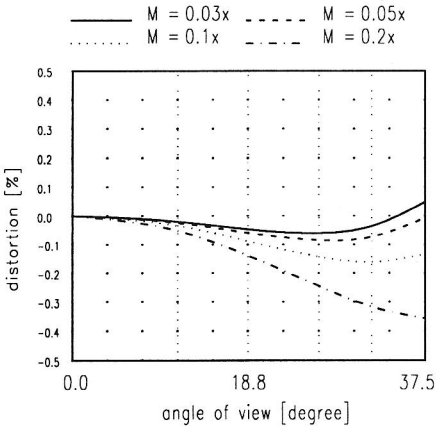
meridional, × Diffraction limited value

Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

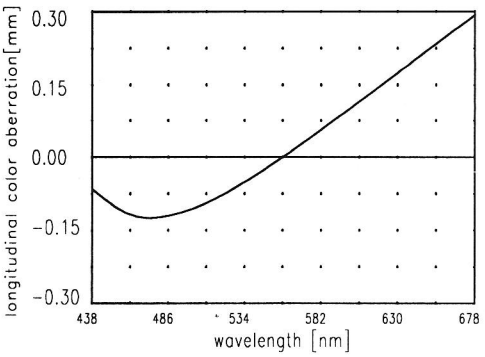
relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x

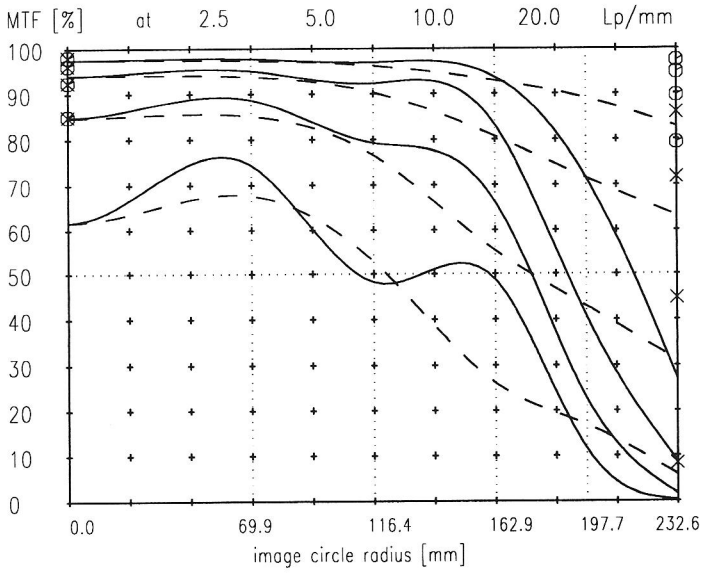


Longitudinal color aberration at ratio 0.1x

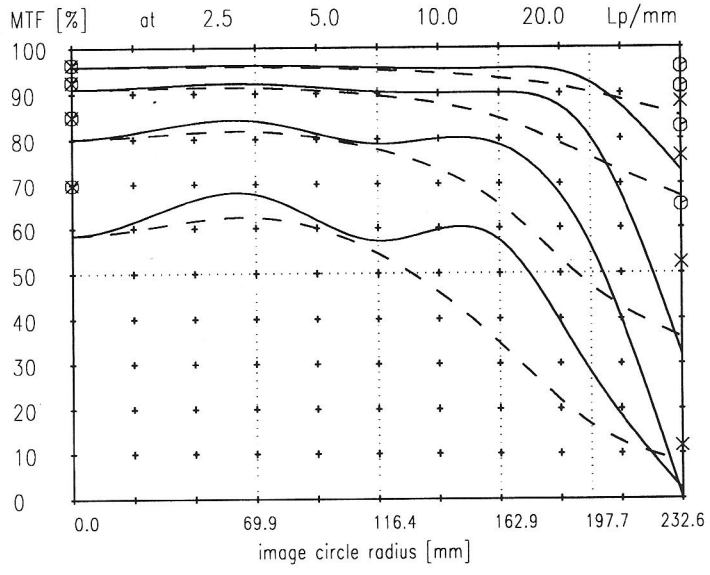


Apo-Sironar-S 300 mm f/5.6

MTF at ratio 0.1x f/11



MTF at ratio 0.1x f/22

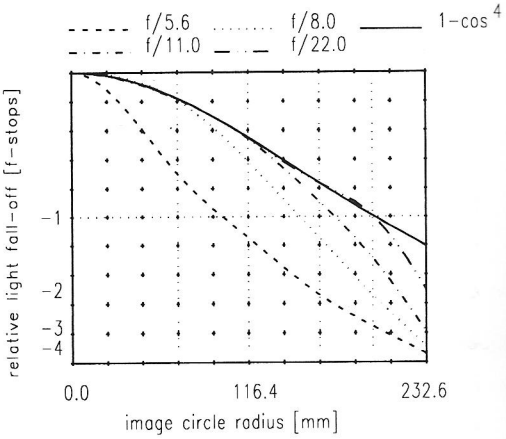


sagittal, ⊖ Diffraction limited value

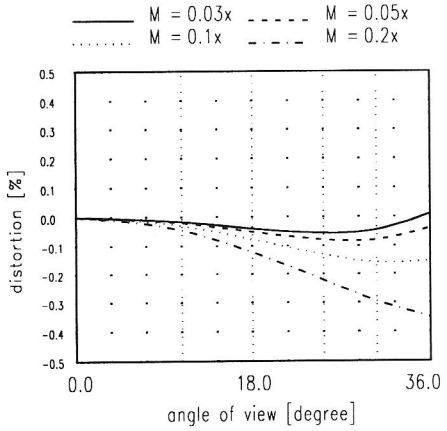
meridional, × Diffraction limited value

Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

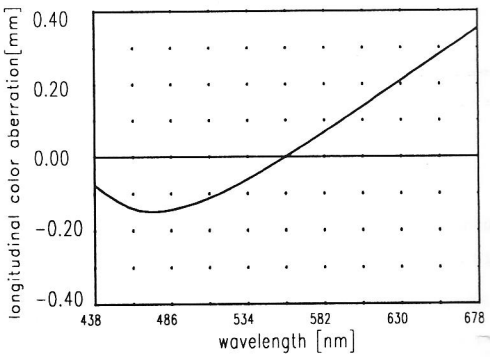
relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x

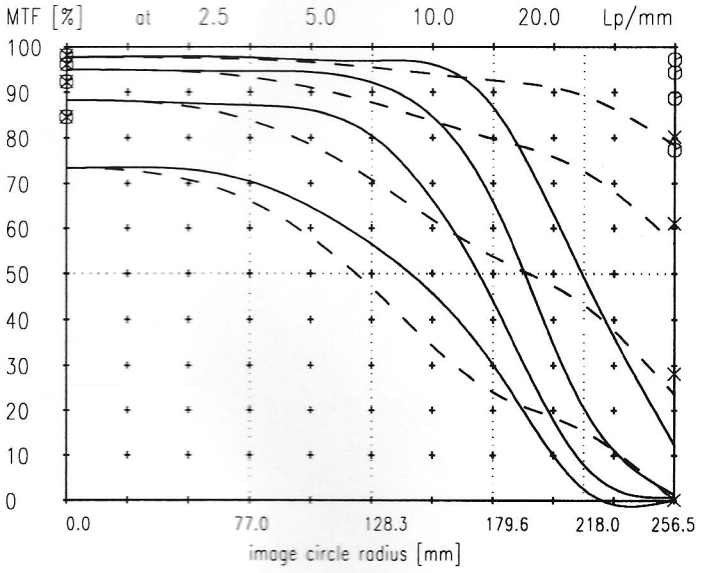


Longitudinal color aberration at ratio 0.1x

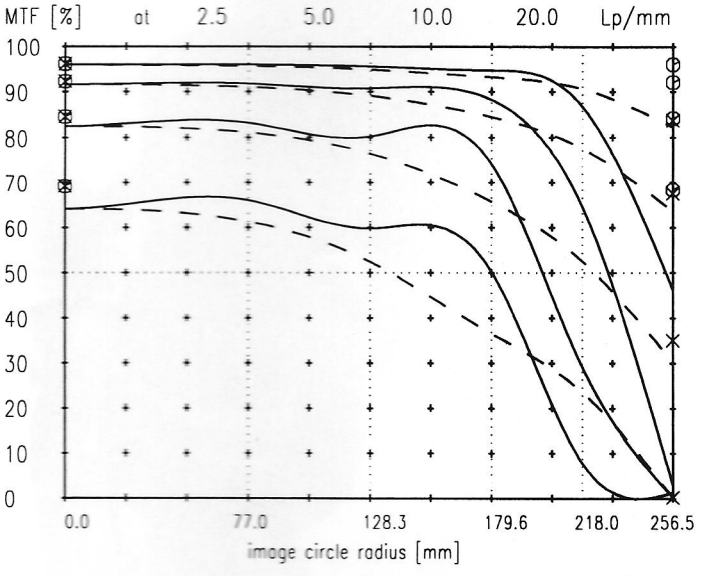


Apo-Sironar-S 360 mm f/6.8

MTF at ratio 0.1x f/11



MTF at ratio 0.1x f/22

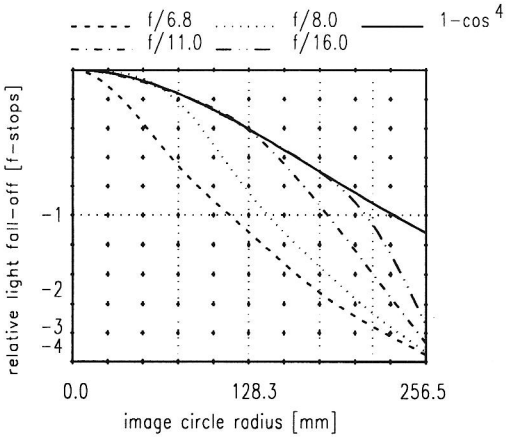


sagittal, ⊖ Diffraction limited value

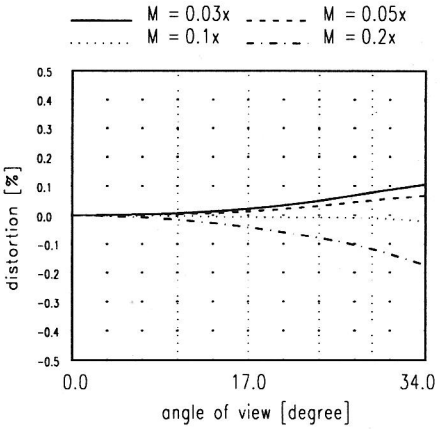
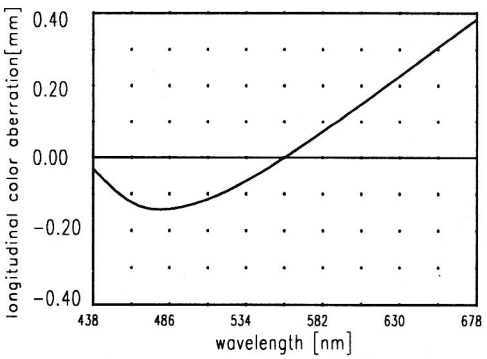
meridional, × Diffraction limited value

Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

relative light fall-off at ratio 0.1x



Distortion at ratio 0.03x to 0.2x



Longitudinal color aberration at ratio 0.1x